

Q -- 13 (amended). The method according to claim 12 characterized in that an immunoassay [according to any of the claims 6-11] is employed in which a sample containing said fragment is exposed to two monoclonal antibodies or recombinant antibody fragments which bind said gamma-carboxylated osteocalcin fragment. --

Please add the following new claims:

-- 14. The immunoassay according to claim 7 characterized in that the non-competitive immunoassay is carried out in either a one-step or a two-step incubation procedure. --

-- 15. The immunoassay according to claim 7 characterized in that the two monoclonal antibodies employed are the antibodies 2H9 and 6F9 that recognize the C-terminal and N-terminal epitopes on the fragment which was determined to be 3005. --

-- 16. The immunoassay according to claim 7 characterized in that the two monoclonal antibodies employed are the antibodies 6F9 and 3H8 that recognize the N-terminal and the C-terminal epitopes on the measured osteocalcin fragments (6-30 or 7-30). --

-- 17. The immunoassay according to claim 7 characterized in that the two monoclonal antibodies employed are the antibodies 6F9 and 3H8 that recognize the N-terminal and the C-terminal epitopes on the measured osteocalcin fragments (6-30 or 7-30). --

-- 18. A method for the measurement of the rate of bone turnover (formation and/or resorption) and/or for the investigation of metabolic bone disorders in an individual, characterized by quantitative determination of a fragment according to claim 2. --

-- 19. A method for the measurement of the rate of bone turnover (formation and/or resorption) and/or for the investigation of metabolic bone disorders in an individual, characterized by quantitative determination of a fragment according to claim 3. --

-- 20. The method of claim 13 characterized in that said monoclonal antibodies or recombinant antibody fragments are specific to epitopes that have been identified on the gamma-carboxylated fragment of osteocalcin, wherein said osteocalcin fragment spans either

i) from the amino acid in position 7 to the amino acid in position 30, or  
ii) from the amino acid in position 6 to the amino acid in position 30 of the amino acid sequence described in claim 1, and that all three glutamic acids in the positions 17, 21 and 24 of said sequence are gamma-carboxylated. --

-- 21. The method according to claim 18 characterized in that an immunoassay is employed in which a sample containing said fragment is exposed to two monoclonal antibodies or recombinant antibody fragments which bind said gamma-carboxylated osteocalcin fragment. --

-- 22. The method of claim 21 characterized in that said monoclonal antibodies or recombinant antibody fragments are specific to epitopes that have been identified on the gamma-carboxylated fragment of osteocalcin, wherein said osteocalcin fragment spans either

i) from the amino acid in position 7 to the amino acid in position 30, or  
ii) from the amino acid in position 6 to the amino acid in position 30 of the amino acid sequence described in claim 1, and that all three glutamic acids in the positions 17, 21 and 24 of said sequence are gamma-carboxylated. --

-- 23. The method according to claim 19 characterized in that an immunoassay is employed in which a sample containing said fragment is exposed to two monoclonal antibodies or recombinant antibody fragments which bind said gamma-carboxylated osteocalcin fragment. --

-- 24. The method of claim 23 characterized in that said monoclonal antibodies or recombinant antibody fragments are specific to epitopes that have been identified on the gamma-carboxylated fragment of osteocalcin, wherein said osteocalcin fragment spans either  
i) from the amino acid in position 7 to the amino acid in position 30, or  
ii) from the amino acid in position 6 to the amino acid in position 30 of the amino acid sequence described in claim 1, and that all three glutamic acids in the positions 17, 21 and 24 of said sequence are gamma-carboxylated. --